# BOWGAN MINERALS LIMITED

# EXPLORATION LICENCE 29475 ADNERA HILL (NEUTRAL JUNCTION PROJECT)

#### **RELINQUISHMENT REPORT**

#### **JANUARY 2015**

Barrow Creek, Alcoota 1:250,000 Map Sheet

Registered titleholder: Bowgan Minerals Limited

Target commodities: gold, silver, base metals

Operator: Bowgan Minerals Limited Author: Gary Price gary@bowgan.com.au

Date: March 2015

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#### SUMMARY

Adnera Hill EL29475, is located 250km north of Alice Springs and comprises part of the Neutral Junction project. Bowgan Minerals Limited is the current operator of the tenement. Exploration is currently aimed at identification of potential occurrence of economic gold, silver and base-metal mineralisation within an iron oxide-copper-gold ('Tennant Creek style' IOCG) setting. Magnetic and geochemical anomalies have been previously identified in association with prospective structural corridors further to the north on EL24253. Exploration conducted on EL29475 to date, aimed at exploring along the extension of these prospective structural corridors. Exploration activity completed by Bowgan on the relinquished portion of EL29475 included; completion of a review of available literature and the completion of a reconnaissance visit during April 2014.

#### 1. INTRODUCTION

Adnera Hill (EL29475) is located 250 km north of Alice Springs, Northern Territory, on the Barrow Creek (SF53-6) and Alcoota (SF53-10) 1:250 000 map sheets (Figure 1). Access to the district is via the Stuart Highway to Ti Tree, then the Adelaide Bore Road or alternatively via the Sandover Highway, then the Adelaide Bore Road to Mount Skinner homestead, with access to the tenement via a network of graded station tracks.

This relinquishment report for Adnera Hill (comprising part of the Neutral Junction project), and describes exploration work conducted on the relinquished portion of EL29475 by Bowgan Minerals Limited (BML).

#### 2. TENEMENT DETAILS

#### 2.1 Tenure

Bowgan Minerals Limited is the registered titleholder of exploration licence EL29475 as detailed in Table 1. This exploration licence lies within the Mount Skinner Pastoral Lease.

Tenenant	Nome	Tenement	No. blocks	Date	Renewal
Tenement	Name	Holder	orig. granted	Granted	Date
EL 29475	Adnera Hill	Bowgan Minerals Ltd (BML)	49 blocks (156 km²)	11/01/2013	10/11/2019

Adnera Hill (EL29475) comprises part of the Neutral Junction project, which includes; Neutral Junction (EL24253) and Donkey Creek (EL28615). Adnera Hill and Donkey Creek are 100% owned/operated by BML, with Neutral Junction being operated under joint-venture agreement between Bowgan Minerals Limited and Mithril Resources Limited and Mega Hindmarsh Pty Limited.

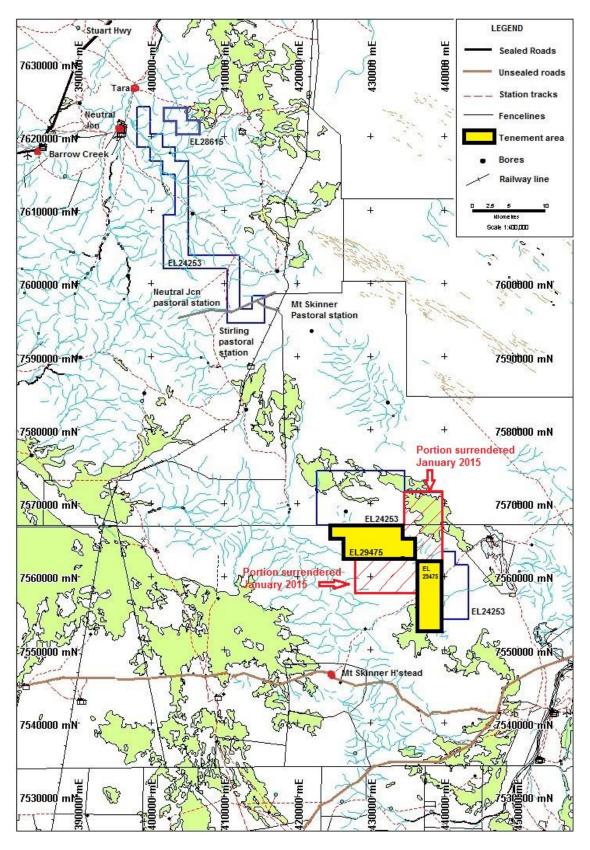
#### 2.2 Native Title Parties and Aboriginal Heritage

EL29475 lies within Native Title Claim area NTP 704 (Mount Skinner) with sacred sites being identified within this precinct.

Bowgan has engaged the Aboriginal Areas Protection Authority (AAPA), which conducted a survey of protected sites on record for EL29475 during October-November 2013. The AAPA survey identified no record of sacred sites within the tenement area.

#### 2.3 Consultation with Pastoralists

The station manager at Mount Skinner Pastoral Station will be contacted by BML both before commencement and at the conclusion of field exploration programs on EL29475. BML intends to explain all aspects of the program in detail with management and staff before commencement of field work and ongoing discussions were conducted during the course of, and at the completion of, each field program.



**Figure 1:** EL29475 (Adnera Hill), showing location of tenement area within the Barrow Creek-Mount Skinner area. Location of other BML tenements comprising the Neutral Junction project; EL24253 and EL28615 are identified.

#### 3. REGIONAL GEOLOGY

The Neutral Junction project consists of a three tenements; EL24253, EL28615 and EL29475 located at the boundary of the Arunta Inlier to the south and the Tennant Creek Inlier/Davenport Province to the north. The contact between these tectonic blocks constitutes a wide northwest-southeast trending corridor which includes intensely folded and faulted rock types of both provinces (Lennartz, 2006).

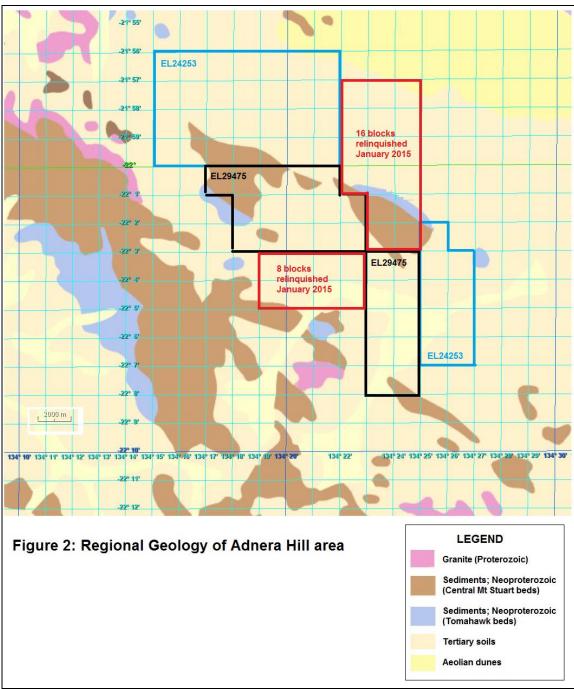
Shallow regolith to deeper transported sandy soils cover occurs across the central and eastern parts of EL29475, with outcrop exposures occurring along the western side of the tenement. Here, Neoproterozoic-aged Georgina Basin sediments comprising; Adelaidean Central Mt Stuart Formation (sandstones and quartzite) occur within shallow-dipping outcrops, or under shallow cover. These flat-lying unconformably above units rest steeply inclined and deformed/metamorphosed Palaeoproterozoic-aged metasediments (Arunta Inlier rocks) which exhibit amphibolite-grade metamorphism and are largely obscured apart from a small number of exposures at surface or under shallow cover.

Further north, this metasedimentary package includes the prospective Hatches Creek Group (HCG) which hosts the Home of Bullion mine as well as a number of other potentially economic prospects.

Proterozoic-aged, radiometrically-anomalous granites have intruded along the northwest-southeast structural trend and occur within the immediate area of EL29475 immediately to the south of Adnera Hill and further south-east of Dinner Camp Well in the Tomahawk Range area.

Previous modelling of the depth of the HCG metasediments by the NTGS indicates that a major fault forms the western margin of the Georgina Basin. The depth of the basin sediments in the area of EL29475 increases from less than 100 m to greater than 1 km from west to east over a distance of less than 500 m. This suggests a major crustal discontinuity, which could provide a pathway for migrating mafic magma.

Locally, this discontinuity is represented by the Ooralingie Fault, which runs along the western side of EL29475. A number of surface gold, silver and copper anomalies have been identified to occur at Adnera Hill, within an iron oxidecopper-gold (IOCG) depositional setting, with the potential for further anomalies to occur within the Ooralingie fault corridor further south on EL29475.



Source: ASTER dataset 2015 (surface geology layer).

#### 4. PREVIOUS EXPLORATION

Historically, limited prospecting and small-scale mining has been reported in the local area for copper, lead, silver, nickel, tin, tantalum, tungsten, molybdenum and mica (NTGS, 1991). The largest mining operation occurred at Home of Bullion mine site where copper ore was extracted (6,100 tonnes officially recorded) between 1923 and 1951.

Aerial surveying (magnetics) was completed by NT Geological Survey on N-S oriented 500 metre line-spacing at 100 metres height during 1981 and a regional gravity survey was completed on a 4km grid during 2008-09.

#### Base metals

Exploration for base metals was conducted within the district by Kennecott Exploration (1966), Department of Mines and Water Resources (1968). Wolfram, tantalum and tin exploration was conducted within the local area by BHP Minerals Ltd (early 1980's) and R.B. Mining (1981). Further work for base metals was conducted in the district by C.R.A.E. (1980), Alcoa Australia Ltd. (1983) and Otter Exploration (1989).

Work recommenced at the abandoned Home of Bullion mine site in 2012, with a program of resource-delineation drilling being conducted by Kidman Resources. This program is currently on-going.

#### Diamonds

Exploration for diamonds was undertaken in the district by C.R.A.E. in 1977.

#### Nickel

Exploration for nickel was undertaken in the district by Mithril Resources Limited in 2005.

#### Uranium

Uranium exploration was undertaken in the district by Otter Exploration (1977), C.R.A. Exploration (1978) and more recently by MegaHindmarsh (2006-9) and by Bowgan (2009-present).

#### 5. EXPORATION BY BOWGAN MINERALS LIMITED

#### 5.1 2013-2014 reporting period

Exploration activity completed by Bowgan Minerals Limited within the surrendered portion of EL29475 included the research of historical literature for the tenement area and completion of a single site visit for the purpose of a geological reconnaissance of the tenement area.

No other field exploration activity was completed on the surrendered portion of EL29475 and no samples were collected or analysed.

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